3.5 Gridded GEO Narrowband Radiances (GGEO)

EOSDIS Product Code: CERX14

The GGEO product is a single file containing metadata, a header record, and multiple data records. The metadata are the CERES Baseline Header Metadata listed in Table B-1 of Appendix B. The header record contains the year/month data date, the actual data starting and ending dates, and the first and the last zones found on the file.

Each data record, called an hourbox, contains data particular to a single grid region and hour. The number of hourboxes on the file is determined by the number of data hours per day, the maximum number of days per month (plus one day for overlap hours), and the number of regions in the nested grid for the zones contained on the file (8 hours per day x 32 days per month x 44012 regions on globe = 11,267,072 hourboxes maximum). Hourboxes for which there are no International Satellite Cloud Climatology Project (ISCCP) data are filled with default values.

A listing of the parameters contained within each data record can be found in Table 3.5-1. Following is a brief explanation of the parameters.

- The Satellite Number identifies the satellite which collected the hourbox radiance data.
- The Time parameter gives the Greenwich mean time (GMT) time for the “key” pixel in the hourbox (the pixel which lies closest to the region centroid).
- The three angle measurements are derived from the centroid of the region at the time indicated in the Time parameter.
- The visible and infrared radiance statistics give the mean, variance, and number for the pixels within the hourbox.

Level: 3
Frequency: Monthly
Configuration Code: 007002 and greater

Time Interval Covered
File: Monthly
Record: Every Third Hour

Portion of Globe Covered
File: Global
Record: 1-Deg Equal-angle Regions

Portion of Atmosphere Covered
File: TOA

Table 3.5-1. Gridded GEO Narrowband Radiances (GGEO) Summary Table

Name	Description Table	Records	Number of Fields	Nominal Size (Bytes)
CERES Baseline Header Metadata	Table B-1	1	36	~25907
CERES_Metadata Vdata	Table B-2	1	14	~1024
GGEO Header Record	Table 3.5-2	1	5	44
GGEO Data Record	Table 3.5-3	11,267,072	11	44

Table 3.5-2. GGEO Header Record

Description	Element Number	Units	Range	Elements/ Record	Bits/ Elem	Bits/ Rec
Year/Month Data Date (yyyymm)		N/A	N/A	1	32	32
Data Starting Date (yyyyddd)		N/A	N/A	1	32	32
Data Ending Date (yyyyddd)		N/A	N/A	1	32	32
First Zone on File		N/A	N/A	1	32	32
Last Zone on File		N/A	N/A	1	32	32
Excess Header Space		N/A	N/A	N/A	N/A	192

Table 3.5-3. GGEO Data Record

Description	Element Number	Units	Range	Elements/ Record	Bits/ Elem	Elem Num	Bits/ Rec
Satellite Number	1	N/A	N/A	1	32	1	32
Time	2	hhmmss	0 .. 235959	1	32	2	32
Cos of Satellite Zenith Angle	3	N/A	-1.0 .. 1.0	1	32	3	32
Cos of Solar Zenith Angle	4	N/A	-1.0 .. 1.0	1	32	4	32
Relative Azimuth Angle	5	deg	0.0 .. 180.0	1	32	5	32
visible radiance: mean, var, num obs	6	$W\ m^{-2}sr^{-1}$	0.0 .. 20.0	3	32	6	96
infrared radiance: mean, var, num obs	7	$W\ m^{-2}sr^{-1}mm^{-1}$	0.0 .. 600.0	3	32	9	96

Total Meta Bits/File:	**70 752**
Total Data Bits/Record:	**352**
Total Records/File:	**11 267 072**
Total Data Bits/File:	**3 966 009 344**
Total Bits/File:	**3 966 080 096**
Total Bytes/File:	**495 760 012**
Total MBytes/File:	**472.8**

GGEO Revision Record

The product Revision Record contains information pertaining to approved section changes. The table lists the date the Software Configuration Change Request (SCCR) was approved, the Release and Version Number, the SCCR number, a short description of the revision, and the revised sections. The authors are listed on the document cover.

GGEO Revision Record

SCCR Approval Date	Release/ Version Number	SCCR Number	Description of Revision	Section(s) Affected
N/A	R3V1	N/A	• Updated format to comply with standards.	All